

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A serial communications link comprising:
2 a scrambler device for receiving a an original data bit stream, the scrambler
3 device scrambles groups of data in the data bit stream to statistically balance the number of
4 logic low and logic high bits in the groups and converting said original data bit stream into
5 ~~serambled data~~; and
6 an ECC encoder device that receives the scrambled groups of the data for the
7 scrambler device and convertsfor converting said scrambled groups of the data into ECC-
8 encoded data.

1 2. (Original) The system as recited in Claim 1, further comprising:
2 a serializer for converting said ECC-encoded data into serialized data;
3 wherein the ECC-encoded data includes frame alignment information; and
4 the system further comprises a receiver for receiving said serialized data and
5 converting the serialized data into data frames based upon the frame alignment information.

1 3. (Previously Amended) The system as recited in Claim 2, wherein the receiver
2 comprises:
3 a frame-recoverer for converting said serialized data into data frames;
4 an ECC decoder for converting said data frames into ECC-decoded data and
5 error indications; and
6 a descrambler for converting said ECC-decoded data into de-scrambled data.

1 4. (Previously Presented) The system as recited in Claim 3, wherein said frame-
2 recoverer uses said error indications in converting said serialized data into data frames.

1 5. (Original) The system as recited in Claim 1, wherein said ECC encoder applies an
2 error correction code in converting said scrambled data into said ECC-encoded data.

1 6. (Currently Amended) A serial communications method, comprising the steps of:
2 receiving ~~a an original~~ data bit stream at a scrambler device, said ~~original~~ data
3 bit stream comprising data bits and other bits;
4 converting said ~~original~~ data bit stream into scrambled data, by said scrambler
5 device, prior to performing another data function on said ~~original~~ data bit stream, said
6 scrambled data comprising groups of data bits having a statistically balanced number of logic
7 low and logic high data bits in each group; and
8 converting said scrambled data into ECC-encoded data.

1 7. (Original) The method as recited in Claim 6, further comprising the steps of:
2 generating a serial stream of the ECC-encoded data; and
3 transmitting said serial stream.

1 8. (Original) The method of Claim 7, wherein:
2 the ECC-encoded data includes frame alignment information; and
3 the method further comprises receiving said serialized data and converting
4 said serialized data into data frames based upon said frame alignment information.

1 9. (Original) The method of Claim 7, further comprising:
2 receiving said serialized data;

3 converting said serialized data into data frames;
4 converting said data frames into ECC-decoded data and error indications; and
5 converting said ECC-decoded data into de-scrambled data.

1 10. (Original) The method of Claim 9, wherein the step of converting the serialized
2 data comprises converting the serialized data into data frames based upon said error
3 indications.

1 11. – 33. (canceled)

1 34. (Currently Amended) A serial communication link comprising:
2 a scrambler device programed to convert a received bit stream into groups of
3 K scrambled data bits so as to statistically balance the number of logic low and logic high bits
4 in each group, having data bits therein, into scrambled data, said received bit stream being
5 without redundant bits and without being encoded prior to being scrambled ; and
6 an ECC encoder programmed to convert said scrambled data into ECC-
7 encoded data.